

## **Microscope Manipulator for Zebrafish Analysis**

**Week** – September 2nd, 2005 – September 8th, 2005

**Team Members :** Joe Hippensteel – Team Leader  
Evan Rogers – Communications  
Chris Webster – BSAC  
Jonathan Baran – BWIG

### **Client :**

Robert Jeraj  
Assistant Professor/ Department of Medical Physics  
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### **Advisor :**

Willis Tompkins  
Professor / Department of Biomedical Engineering  
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### **Problem Statement**

Our goal is to develop required devices and techniques for a zebrafish embryo imaging and irradiation research project. The initial stage is developing and constructing a prototype of a digital micromanipulator to move the Petri dish of zebrafish at a reasonable speed so as to be able to develop a composite image of the entire dish. In addition, the zebrafish must be localized during the initial scan using standard digital imaging techniques. This information will be used to irradiate the fish and determine the presence of cell apoptosis and inflammation due to this radiation.

### **Accomplishments**

- Established team members and positions
- Chose a project #13 – microscope micromanipulator for zebrafish research
- Met with Dr. Jeraj and associates to discuss project requirements
- Doled out tasks to accomplish before 9/15 meeting with Dr. Jeraj and associates (e.g. medical imaging and micromanipulator portions)
- Class time – discussed project with Professor Tompkins

### **This Week's Goals**

- Research medical imaging techniques
- Determine if micromanipulator fabrication is necessary
- Meet with client and associates 9/15

### **Difficulties**

- Understanding all requirements of the project

### **Activities/Accomplishments**

Group Member	Weekly Accomplishments	Time (hrs)	Running Total (hrs)
Joe Hippensteel	Class time, independent research, client meeting, progress report	5	4.5
Evan Rogers	Class time, independent research, client meeting, email correspondence	5	5
Chris Webster	Class time, independent research, client meeting	4.5	4.5
Jonathan Baran	Class time, independent research, client meeting	4.5	4.5